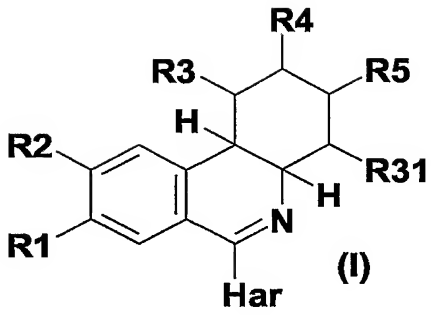
Patent Claims

1. Compounds of formula I,



in which

R1 is hydroxyl, 1-4C-alkoxy, 3-7C-cycloalkoxy, 3-7C-cycloalkylmethoxy, 2,2-difluoroethoxy, or completely or predominantly fluorine-substituted 1-4C-alkoxy,

R2 is hydroxyl, 1-4C-alkoxy, 3-7C-cycloalkoxy, 3-7C-cycloalkylmethoxy, 2,2-difluoroethoxy, or completely or predominantly fluorine-substituted 1-4C-alkoxy,

or in which

R1 and R2 together are a 1-2C-alkylenedioxy group,

R3 is hydrogen or 1-4C-alkyl,

R31 is hydrogen or 1-4C-alkyl,

either, in a first embodiment (embodiment a) according to the present invention,

R4 is -O-R41, in which

R41 is hydrogen, 1-4C-alkyl, 1-4C-alkoxy-1-4C-alkyl, hydroxy-2-4C-alkyl, 1-7C-alkylcarbonyl, or completely or predominantly fluorine-substituted 1-4C-alkyl, and

R5 is hydrogen or 1-4C-alkyl,

or, in a second embodiment (embodiment b) according to the present invention,

R4 is hydrogen or 1-4C-alkyl, and

R5 is -O-R51, in which

R51 is hydrogen, 1-4C-alkyl, 1-4C-alkoxy-1-4C-alkyl, hydroxy-2-4C-alkyl, 1-7C-alkylcarbonyl, or completely or predominantly fluorine-substituted 1-4C-alkyl,

Har is optionally substituted by R6 and/or R7 and/or R8, and is a 5- to 10-membered monocylic or fused bicyclic unsaturated or partially saturated heteroaryl radical comprising 1 to 4 heteroatoms selected independently from the group consisting of oxygen, nitrogen and sulfur, in which

R6 is halogen, 1-4C-alkyl, 1-4C-alkoxy, 1-4C-alkoxy-2-4C-alkoxy, 1-4C-alkylthio, sulfanyl, cyano, 1-4C-alkoxycarbonyl, carboxyl, hydroxyl, oxo, -A-N(R61)R62, pyridyl, or completely or partially fluorine-substituted 1-4C-alkyl, in which

A is a bond or 1-4C-alkylene,

R61 is hydrogen or 1-4C-alkyl,

R62 is hydrogen or 1-4C-alkyl,

or R61 and R62 together and with inclusion of the nitrogen atom, to which they are attached, form a heterocyclic ring Het1, in which

Het1 is optionally substituted by R611, and is a 3- to 7-membered saturated or unsaturated monocyclic heterocyclic ring radical comprising the nitrogen atom, to which R61 and R62 are bonded, and optionally one to three further heteroatoms independently selected from the group consisting of oxygen, nitrogen and sulfur, in which

R611 is 1-4C-alkyl,

R7 is 1-4C-alkyl, 1-4C-alkoxy, 1-4C-alkoxy-2-4C-alkoxy, 1-4C-alkylthio, sulfanyl, hydroxyl, oxo, amino or mono- or di-1-4C-alkylamino,

R8 is halogen, 1-4C-alkyl or 1-4C-alkoxy,

and the salts, the N-oxides and the salts of the N-oxides of these compounds.

2. Compounds of formula I according to claim 1 in which

R1 is hydroxyl, 1-4C-alkoxy, 3-7C-cycloalkoxy, 3-7C-cycloalkylmethoxy, 2,2-difluoroethoxy, or completely or predominantly fluorine-substituted 1-4C-alkoxy,

R2 is hydroxyl, 1-4C-alkoxy, 3-7C-cycloalkoxy, 3-7C-cycloalkylmethoxy, 2,2-difluoroethoxy, or completely or predominantly fluorine-substituted 1-4C-alkoxy,

or in which

R1 and R2 together are a 1-2C-alkylenedioxy group,

R3 is hydrogen or 1-4C-alkyl,

R31 is hydrogen or 1-4C-alkyl,

either, in a first embodiment (embodiment a) according to the present invention,

R4 is -O-R41, in which

R41 is hydrogen, 1-4C-alkyl, 1-4C-alkoxy-1-4C-alkyl, hydroxy-2-4C-alkyl, 1-7C-alkylcarbonyl, or completely or predominantly fluorine-substituted 1-4C-alkyl, and

R5 is hydrogen or 1-4C-alkyl,

or, in a second embodiment (embodiment b) according to the present invention,

R4 is hydrogen or 1-4C-alkyl, and

R5 is -O-R51, in which

R51 is hydrogen, 1-4C-alkyl, 1-4C-alkoxy-1-4C-alkyl, hydroxy-2-4C-alkyl, 1-7C-alkylcarbonyl, or completely or predominantly fluorine-substituted 1-4C-alkyl,

Har is optionally substituted by R6 and/or R7 and/or R8, and is a 5- to 10-membered monocylic or fused bicyclic unsaturated or partially saturated heteroaryl radical comprising 1 to 4 heteroatoms selected independently from the group consisting of oxygen, nitrogen and sulfur, in which

R6 is halogen, 1-4C-alkyl, 1-4C-alkoxy, 1-4C-alkoxy-2-4C-alkoxy, 1-4C-alkylthio, cyano, 1-4C-alkoxycarbonyl, carboxyl, hydroxyl, -A-N(R61)R62, pyridyl, or completely or partially fluorine-substituted 1-4C-alkyl, in which

A is a bond or 1-4C-alkylene,

R61 is hydrogen or 1-4C-alkyl,

R62 is hydrogen or 1-4C-alkyl,

or R61 and R62 together and with inclusion of the nitrogen atom, to which they are attached, form a heterocyclic ring Het1, in which

Het1 is optionally substituted by R611, and is a 3- to 7-membered saturated or unsaturated monocyclic heterocyclic ring radical comprising the nitrogen atom, to which R61 and R62 are bonded, and optionally one to three further heteroatoms independently selected from the group consisting of oxygen, nitrogen and sulfur, in which

R611 is 1-4C-alkyl,

R7 is 1-4C-alkoxy, 1-4C-alkoxy-2-4C-alkoxy, 1-4C-alkylthio, hydroxyl, amino or mono- or di-1-4C-alkylamino,

R8 is halogen,

and the salts, the N-oxides and the salts of the N-oxides of these compounds.

3. Compounds of formula I according to claim 1 in which

R1 is 1-2C-alkoxy, 3-5C-cycloalkoxy, 3-5C-cycloalkylmethoxy, 2,2-difluoroethoxy, or completely or predominantly fluorine-substituted 1-2C-alkoxy,

R2 is 1-2C-alkoxy, 3-5C-cycloalkoxy, 3-5C-cycloalkylmethoxy, 2,2-difluoroethoxy, or completely or predominantly fluorine-substituted 1-2C-alkoxy,

R3 is hydrogen,

R31 is hydrogen;

either, in a first embodiment (embodiment a) according to the present invention,

R4 is -O-R41, in which

R41 is hydrogen or 1-4C-alkylcarbonyl, and

R5 is hydrogen,

or, in a second embodiment (embodiment b) according to the present invention,

R4 is hydrogen, and

R5 is -O-R51, in which

R51 is hydrogen or 1-4C-alkylcarbonyl;

in one embodimental detail according to this invention,

Har is optionally substituted by R6 and/or R7, and is a 9- or 10-membered fused bicyclic partially saturated heteroaryl radical comprising a heteroatom-free benzene ring and, in the other ring, 1 or 2 heteroatoms independently selected from oxygen, nitrogen and sulfur,
whereby said Har ring system is attached to the parent molecular group via any substitutable carbon atom of the benzene ring,

in which

R6 is 1-4C-alkyl or halogen,

R7 is halogen;

or, in another embodimental detail according to this invention,

Har is Cyc2, in which

Cyc2 is optionally substituted by R6 and/or R7 and/or R8, and is a 9- or 10-membered fused bicyclic fully aromatic ring system containing one to four heteroatoms each of which is selected from nitrogen, oxygen and sulphur, and which Cyc2 ring system is made up of
a first constituent (constituent m) being a benzene or pyridine ring,
and fused to said first constituent m,
a second constituent (constituent n) being a 5- or 6-membered monocylic heteroaryl ring comprising one to three heteroatoms independently selected from the group consisting of nitrogen, oxygen and sulphur,
whereby said Cyc2 ring system is attached to the parent molecular group via any substitutable ring carbon atom of the constituent m,

in which

R6 is 1-4C-alkyl or 1-4C-alkoxy,

R7 is 1-4C-alkoxy,

R8 is 1-4C-alkyl;

or, in yet another embodimental detail according to this invention,

either

Har is optionally substituted by R6 and/or R7 and/or R8, and is a 6-membered monocyclic unsaturated heteroarly radical comprising one or two nitrogen atoms,

or

Har is optionally substituted by R6 and/or R7, and is a 5-membered monocyclic unsaturated heteroarly radical comprising one to four heteroatoms selected independently from the group consisting of oxygen, nitrogen and sulphur,

in which

R6 is halogen, 1-4C-alkyl, 1-4C-alkoxy, 1-4C-alkoxy-2-4C-alkoxy, 1-4C-alkylthio, sulfanyl, cyano, 1-4C-alkoxycarbonyl, carboxyl, hydroxyl, oxo, -A-N(R61)R62, or pyridyl, in which

A is a bond or 1-4C-alkylene,

R61 is hydrogen or 1-4C-alkyl,

R62 is hydrogen or 1-4C-alkyl,

or R61 and R62 together and with inclusion of the nitrogen atom, to which they are attached, form a heterocyclic ring Het1, in which

either, in one facet,

Het1 is optionally substituted by R611 on a ring nitrogen atom, and is a 5- to 7-membered saturated monocyclic heterocyclic ring radical comprising the nitrogen atom, to which R61 and R62 are bonded, and optionally one further heteroatom selected from the group consisting of oxygen, nitrogen and sulfur, in which

R611 is 1-4C-alkyl,

or, in another facet,

Het1 is a 5-membered unsaturated monocyclic heteroaryl radical comprising the nitrogen atom, to which R61 and R62 are bonded, and optionally one to three further nitrogen atoms,

R7 is 1-4C-alkyl, 1-4C-alkoxy, 1-4C-alkoxy-2-4C-alkoxy, 1-4C-alkylthio, sulfanyl, hydroxyl, oxo, amino, or mono- or di-1-4C-alkylamino,

R8 is halogen, 1-4C-alkyl or 1-4C-alkoxy,

and the enantiomers, as well as the salts, the N-oxides and the salts of the N-oxides of these compounds and enantiomers.

4. Compounds of formula I according to claim 1 in which

R1 is 1-2C-alkoxy, 2,2-difluoroethoxy, or completely or predominantly fluorine-substituted 1-2C-alkoxy,

R2 is 1-2C-alkoxy, 2,2-difluoroethoxy, or completely or predominantly fluorine-substituted 1-2C-alkoxy,

R3 is hydrogen,

R31 is hydrogen;

either, in a first embodiment (embodiment a) according to the present invention,

R4 is -O-R41, in which

R41 is hydrogen or 1-4C-alkylcarbonyl, and

R5 is hydrogen,

or, in a second embodiment (embodiment b) according to the present invention,

R4 is hydrogen, and

R5 is -O-R51, in which

R51 is hydrogen or 1-4C-alkylcarbonyl;

in one embodimental detail according to this invention,

Har is Cyc1, in which

Cyc1 is optionally substituted by halogen on its benzene ring, and is

indolinyl, isoindolinyl, tetrahydroquinolinyl, tetrahydroisoquinolinyl, 3,4-dihydrobenzo[1,4]oxazinyl, 1-methyl-indolinyl, 2-methyl-isoindolinyl, 1-methyl-tetrahydroquinolinyl, 2-methyl-tetrahydroisoquinolinyl, 4-methyl-3,4-dihydrobenzo[1,4]oxazinyl, 2,3-dihydrobenzofuranyl, 2,3-dihydrobenzothiophenyl, benzo[1,3]dioxolyl, dihydro-benzo[1,4]dioxinyl, chromanyl, chromenyl, or 2,2-difluoro-benzo[1,3]dioxolyl,

whereby said Cyc1 ring system is attached to the parent molecular group via any substitutable carbon atom of the benzene ring;

or, in another embodimental detail according to this invention,

Har is Cyc2, in which

Cyc2 is optionally substituted by R6 and/or R7 and/or R8, and is a 9- or 10-membered fused bicyclic fully aromatic ring system containing one to three heteroatoms each of which is selected from nitrogen, oxygen and sulphur, and which Cyc2 ring system is made up of

a first constituent (constituent m) being a benzene or pyridine ring,

and fused to said first constituent m,

a second constituent (constituent n) being a 5- or 6-membered monocylic heteroaryl ring comprising one to three heteroatoms independently selected from the group consisting of nitrogen, oxygen and sulphur,

whereby said Cyc2 ring system is attached to the parent molecular group via any substitutable ring carbon atom of the constituent m,

in which

R6 is 1-4C-alkyl or 1-4C-alkoxy,

R7 is 1-4C-alkoxy,

R8 is 1-4C-alkyl;

or, in yet another embodimental detail according to this invention,

Har is optionally substituted by R6 and/or R7 and/or R8, and is a pyridinyl, pyrimidinyl, pyrazinyl or pyridazinyl radical, in which

R6 is halogen, 1-4C-alkyl, 1-4C-alkoxy, 1-4C-alkylthio, 1-4C-alkoxycarbonyl, carboxyl, hydroxyl, oxo, or -A-N(R61)R62, in which

A is a bond or 1-4C-alkylene,

R61 is 1-4C-alkyl,

R62 is 1-4C-alkyl,

or R61 and R62 together and with inclusion of the nitrogen atom, to which they are attached, form a heterocyclic ring Het1, in which

either

Het1 is piperidin-1-yl, pyrrolidin-1-yl, morpholin-4-yl, thiomorpholin-4-yl, piperazin-1-yl or 4N-methyl-piperazin-1-yl,

or

Het1 is pyrrol-1-yl, pyrazol-1-yl, triazol-1-yl or imidazol-1-yl,
R7 is 1-4C-alkyl, 1-4C-alkoxy, 1-4C-alkylthio, hydroxyl, oxo, or di-1-4C-alkylamino,
R8 is halogen, 1-4C-alkyl or 1-4C-alkoxy;

or, in still yet another embodimental detail according to this invention,
Har is optionally substituted by R6 and/or R7, and is a 5-membered monocyclic unsaturated heteroarly radical comprising one to four heteroatoms selected independently from the group consisting of oxygen, nitrogen and sulphur,
in which
R6 is 1-4C-alkyl, or pyridyl,
R7 is 1-4C-alkyl,
and the enantiomers, as well as the salts, the N-oxides and the salts of the N-oxides of these compounds and enantiomers.

5. Compounds of formula I according to claim 1 in which
one of R1 and R2 is methoxy or ethoxy, and the other is methoxy, ethoxy, 2,2-difluoroethoxy or difluoromethoxy,
R3 is hydrogen,
R31 is hydrogen;

R4 is -O-R41, in which
R41 is hydrogen or 1-4C-alkylcarbonyl, and
R5 is hydrogen,

in one embodimental detail according to this invention,
Har is Cyc1, in which
Cyc1 is optionally substituted by chlorine on its benzene ring, and is
indolinyl, isoindolinyl, tetrahydroquinolinyl, tetrahydroisoquinolinyl, or 3,4-dihydrobenzo[1,4]oxazinyl, 1-methyl-indolinyl, 2-methyl-isoindolinyl, 1-methyl-tetrahydroquinolinyl, 2-methyl-tetrahydroisoquinolinyl, or 4-methyl-3,4-dihydrobenzo[1,4]oxazinyl,
2,3-dihydrobenzofuranyl, 2,3-dihydrobenzothiophenyl, benzo[1,3]dioxolyl, dihydrobenzo[1,4]dioxinyl, chromanyl, chromenyl, or 2,2-difluoro-benzo[1,3]dioxolyl,
whereby said Cyc1 ring system is attached to the parent molecular group via any substitutable carbon atom of the benzene ring;

or, in another embodimental detail according to this invention,
Har is Cyc2, in which
Cyc2 is optionally substituted by R6 and/or R7, and is

either

pyrazolopyridinyl or 1-methyl-pyrazolopyridinyl,

whereby these radicals may be attached to the parent molecular group via the pyridine ring,

or

benzothiazolyl, benzoxazolyl, benzimidazolyl, indazolyl, 1-methyl-benzimidazolyl, 1-methyl-indazolyl, benzoxadiazolyl, benzotriazolyl, 1H-methyl-benzotriazolyl, benzothiadiazolyl, quinolinyl, isoquinolinyl, quinoxalinyl, quinazolinyl or cinnolinyl,

whereby these radicals may be attached to the parent molecular group via the benzene ring,

in which

R6 is 1-4C-alkyl or 1-4C-alkoxy,

R7 is 1-4C-alkoxy;

or, in yet another embodimental detail according to this invention,

Har is optionally substituted by R6 and/or R7 and/or R8, and is a pyridinyl, pyrimidinyl, pyrazinyl or pyridazinyl radical, in which

R6 is halogen, 1-4C-alkyl, 1-4C-alkoxy, 1-4C-alkylthio, 1-4C-alkoxycarbonyl, carboxyl, hydroxyl, oxo, or -A-N(R61)R62, in which

A is a bond or 1-4C-alkylene,

R61 is 1-4C-alkyl,

R62 is 1-4C-alkyl,

or R61 and R62 together and with inclusion of the nitrogen atom, to which they are attached, form a heterocyclic ring Het1, in which

either

Het1 is piperidin-1-yl, pyrrolidin-1-yl, morpholin-4-yl, thiomorpholin-4-yl, piperazin-1-yl or 4N-methyl-piperazin-1-yl,

or

Het1 is pyrrol-1-yl, pyrazol-1-yl, triazol-1-yl or imidazol-1-yl,

R7 is 1-4C-alkyl, 1-4C-alkoxy, 1-4C-alkylthio, hydroxyl, oxo, or di-1-4C-alkylamino,

R8 is halogen, 1-4C-alkyl or 1-4C-alkoxy;

or, in still yet another embodimental detail according to this invention,

Har is optionally substituted by R6 and/or R7, and is a 5-membered monocyclic unsaturated heteroarly radical comprising one to four heteroatoms selected independently from the group consisting of oxygen, nitrogen and sulphur,

in which

R6 is 1-4C-alkyl, or pyridyl,

R7 is 1-4C-alkyl,

and the enantiomers, as well as the salts, the N-oxides and the salts of the N-oxides of these compounds and enantiomers.

6. Compounds of formula I according to claim 1 in which

R1 is methoxy or ethoxy,

R2 is methoxy, ethoxy, 2,2-difluoroethoxy or difluoromethoxy,

R3 is hydrogen,

R31 is hydrogen;

R4 is -O-R41, in which

R41 is hydrogen or acetyl, and

R5 is hydrogen,

in one embodimental detail according to this invention,

Har is Cyc1, in which

Cyc1 is benzo[1,3]dioxol-5-yl, dihydrobenzo[1,4]dioxin-5-yl, 2,2-difluoro-benzo[1,3]dioxol-5-yl, or 5-chloro-4-methyl-3,4-dihydrobenzo[1,4]oxazin-7-yl;

or, in another embodimental detail according to this invention,

Har is Cyc2, in which

Cyc2 is quinolin-6-yl, benzofurazan-5-yl, benzothiazol-6-yl, 1-methyl-1H-benzotriazol-5-yl or 4-methoxy-1,3-dimethyl-1H-pyrazolo[3,4-b]pyridin-5-yl, benzo[1,2,3]thiadiazol-5-yl or quinoxalin-5-yl;

or, in yet another embodimental detail according to this invention,

Har is optionally substituted by R6 and/or R7 and/or R8, and is a pyridinyl, pyrimidinyl, pyrazinyl or pyridazinyl radical, in which

R6 is chlorine, methyl, methoxy, ethoxy, methylthio, methoxycarbonyl, carboxyl, hydroxyl, oxo, or -A-N(R61)R62, in which

A is a bond or ethylene,

R61 is methyl,

R62 is methyl,

or R61 and R62 together and with inclusion of the nitrogen atom, to which they are attached, form a heterocyclic ring Het1, in which

either

Het1 is piperidin-1-yl, pyrrolidin-1-yl or morpholin-4-yl,

or

Het1 is pyrazol-1-yl or imidazol-1-yl,

R7 is methyl, methoxy, ethoxy, methylthio or dimethylamino,

R8 is chlorine or methoxy;

or, in still yet another embodimental detail according to this invention,

Har is isoxazolyl, 1-methylimidazolyl, or pyridyl-thiazolyl;

and the enantiomers, as well as the salts, the N-oxides and the salts of the N-oxides of these compounds and enantiomers.

7. Compounds of formula I according to claim 1 in which

R1 is methoxy,

R2 is methoxy, ethoxy, 2,2-difluoroethoxy or difluoromethoxy,

R3 is hydrogen,

R31 is hydrogen;

R4 is -O-R41, in which

R41 is hydrogen or acetyl, and

R5 is hydrogen,

in one embodimental detail according to this invention,

Har is Cyc1, in which

Cyc1 is benzo[1,3]dioxol-5-yl, dihydrobenzo[1,4]dioxin-5-yl, 2,2-difluoro-benzo[1,3]dioxol-5-yl, or 5-chloro-4-methyl-3,4-dihydrobenzo[1,4]oxazin-7-yl;

or, in another embodimental detail according to this invention,

Har is Cyc2, in which

Cyc2 is quinolin-6-yl, benzofurazan-5-yl, benzothiazol-6-yl, 1-methyl-1H-benzotriazol-5-yl or 4-methoxy-1,3-dimethyl-1H-pyrazolo[3,4-b]pyridin-5-yl, benzo[1,2,3]thiadiazol-5-yl or quinoxalin-5-yl;

or, in yet another embodimental detail according to this invention,

Har is pyridin-3-yl, pyridin-4-yl, 6-(morpholin-4-yl)-pyridin-3-yl, 6-(piperidin-1-yl)-pyridin-3-yl, 6-(pyrazol-1-yl)-pyridin-3-yl, 6-(imidazol-1-yl)-pyridin-3-yl, 6-methoxycarbonyl-pyridin-3-yl, 3-methoxycarbonyl-pyridin-2-yl, 2-methoxy-pyridin-3-yl, 6-methoxy-pyridin-3-yl, 2-methylsulfanyl-pyridin-3-yl, 6-hydroxy-pyridin-3-yl, 6-carboxy-pyridin-3-yl, pyrimidin-5-yl, 2-methoxy-pyrimidin-5-yl, 2-dimethylamino-pyrimidin-5-yl, 2-methylsulfanyl-pyrimidin-5-yl, pyrazin-2-yl, 5-methyl-pyrazin-2-yl, 6-[2-(pyrrolidin-1-yl)-ethyl]-pyridin-3-yl, 2,6-dimethoxy-pyridin-3-yl, 2,6-dimethoxy-pyridin-4-yl, 4,6-dimethoxy-pyridin-3-yl, 5,6-dimethoxy-pyridin-3-yl, 4,6-diethoxy-pyridin-3-yl, 5-ethoxy-6-methoxy-pyridin-3-yl, 1-methyl-1H-pyridin-2-one-5-yl, 2,6-dimethoxy-pyrimidin-4-yl, 2,4-dimethoxy-pyrimidin-5-yl, 4,6-dimethoxy-pyrimidin-5-yl, 4-methyl-2-methylsulfanyl-pyrimidin-5-yl, 5-chloro-2-methylsulfanyl-pyrimidin-4-yl, 4-chloro-2-dimethylamino-pyrimidin-5-yl, 2-dimethylamino-4-methoxy-pyrimidin-5-yl, 1-methyl-1H-pyrimidin-2-one-5-yl, 3,6-dimethoxy-

pyridazin-4-yl, 4-chloro-2,6-dimethoxy-pyridin-3-yl, 3-chloro-2,6-dimethoxy-pyridin-4-yl, 5-chloro-2,6-bisdimethylamino-pyrimidin-4-yl, or 2,4,6-trimethoxy-pyrimidin-5-yl;

or, in still yet another embodimental detail according to this invention,

Har is isoxazol-5-yl, 1-methylimidazol-2-yl, 1-methylimidazol-5-yl, or 2-(pyridin-3-yl)-thiazol-4-yl;

and the enantiomers, as well as the salts, the N-oxides and the salts of the N-oxides of these compounds and enantiomers.

8. Compounds of formula I according to claim 1 in which

R1 is methoxy,

R2 is ethoxy, 2,2-difluoroethoxy or difluoromethoxy,

R3 is hydrogen,

R31 is hydrogen;

R4 is -O-R41, in which

R41 is hydrogen, and

R5 is hydrogen,

in one embodimental detail according to this invention,

Har is Cyc1, in which

Cyc1 is benzo[1,3]dioxol-5-yl, dihydrobenzo[1,4]dioxin-5-yl, 2,2-difluoro-benzo[1,3]dioxol-5-yl, or 5-chloro-4-methyl-3,4-dihydrobenzo[1,4]oxazin-7-yl;

or, in another embodimental detail according to this invention,

Har is Cyc2, in which

Cyc2 is quinolin-6-yl, benzofurazan-5-yl, benzothiazol-6-yl, 1-methyl-1H-benzotriazol-5-yl or 4-methoxy-1,3-dimethyl-1H-pyrazolo[3,4-b]pyridin-5-yl, benzo[1,2,3]thiadiazol-5-yl or quinoxalin-5-yl;

or, in yet another embodimental detail according to this invention,

Har is pyridin-3-yl, pyridin-4-yl, 6-(morpholin-4-yl)-pyridin-3-yl, 6-(piperidin-1-yl)-pyridin-3-yl, 6-(pyrazol-1-yl)-pyridin-3-yl, 6-(imidazol-1-yl)-pyridin-3-yl, 6-methoxycarbonyl-pyridin-3-yl, 3-methoxycarbonyl-pyridin-2-yl, 2-methoxy-pyridin-3-yl, 6-methoxy-pyridin-3-yl, 2-methylsulfanyl-pyridin-3-yl, 6-hydroxy-pyridin-3-yl, 6-carboxy-pyridin-3-yl, pyrimidin-5-yl, 2-methoxy-pyrimidin-5-yl, 2-dimethylamino-pyrimidin-5-yl, 2-methylsulfanyl-pyrimidin-5-yl, pyrazin-2-yl, 5-methyl-pyrazin-2-yl, 6-[2-(pyrrolidin-1-yl)-ethyl]-pyridin-3-yl, 2,6-dimethoxy-pyridin-3-yl, 2,6-dimethoxy-pyridin-4-yl, 4,6-dimethoxy-pyridin-3-yl, 5,6-dimethoxy-pyridin-3-yl, 4,6-diethoxy-pyridin-3-yl, 5-ethoxy-6-methoxy-pyridin-3-yl, 1-methyl-1H-pyridin-2-one-5-yl, 2,6-dimethoxy-pyrimidin-4-yl, 2,4-dimethoxy-pyrimidin-5-yl, 4,6-dimethoxy-pyrimidin-5-yl, 4-methyl-2-methylsulfanyl-

pyrimidin-5-yl, 5-chloro-2-methylsulfanyl-pyrimidin-4-yl, 4-chloro-2-dimethylamino-pyrimidin-5-yl, 2-dimethylamino-4-methoxy-pyrimidin-5-yl, 1-methyl-1H-pyrimidin-2-one-5-yl, 3,6-dimethoxy-pyridazin-4-yl, 4-chloro-2,6-dimethoxy-pyridin-3-yl, 3-chloro-2,6-dimethoxy-pyridin-4-yl, 5-chloro-2,6-bisdimethylamino-pyrimidin-4-yl, or 2,4,6-trimethoxy-pyrimidin-5-yl;

or, in still yet another embodimental detail according to this invention,

Har is isoxazol-5-yl, 1-methylimidazol-2-yl, 1-methylimidazol-5-yl, or 2-(pyridin-3-yl)-thiazol-4-yl;

and the enantiomers, as well as the salts, the N-oxides and the salts of the N-oxides of these compounds and enantiomers.

9. Compounds of formula I according to claim 1 or 2 in which

R1 is 1-2C-alkoxy, 2,2-difluoroethoxy, or completely or predominantly fluorine-substituted 1-2C-alkoxy,

R2 is 1-2C-alkoxy, 2,2-difluoroethoxy, or completely or predominantly fluorine-substituted 1-2C-alkoxy,

R3 is hydrogen,

R31 is hydrogen,

R4 is -O-R41, in which

R41 is hydrogen,

R5 is hydrogen,

in one embodimental detail (detail 1) according to this invention,

Har is optionally substituted by R6 and/or R7, and is benzo[1,4]dioxanyl or benzo[1,3]dioxolyl, in which

R6 is fluorine,

R7 is fluorine;

or, in another embodimental detail (detail 2) according to this invention,

Har is quinolinyl, benzofurazanyl or benzothiazolyl;

or, in yet another embodimental detail (detail 3) according to this invention,

either

Har is optionally substituted by R6 and/or R7, and is pyridinyl, in which

R6 is 1-4C-alkoxy, -A-N(R61)R62, in which

A is a bond,

R61 and R62 together and with inclusion of the nitrogen atom, to which they are attached, form a heterocyclic ring Het1, in which

Het1 is morpholinyl, thiomorpholinyl, N-(R611)-piperazinyl or 4-N-(R611)-homopiperazinyl, in which

R611 is 1-2C-alkyl,

R7 is 1-4C-alkoxy,

or

Har is optionally substituted by R6, and is isoxazolyl, imidazolyl or thiazolyl, in which

R6 is 1-4C-alkyl or pyridyl;
and the salts, the N-oxides and the salts of the N-oxides of these compounds.

10. Compounds of formula I according to claim 1 in which
R1 is 1-2C-alkoxy, 2,2-difluoroethoxy, or completely or predominantly fluorine-substituted 1-2C-alkoxy,
R2 is 1-2C-alkoxy, 2,2-difluoroethoxy, or completely or predominantly fluorine-substituted 1-2C-alkoxy,
R3 is hydrogen,
R31 is hydrogen;

R4 is -O-R41, in which
R41 is hydrogen,
R5 is hydrogen;

in one embodimental detail according to this invention,
Har is Cyc1, in which
Cyc1 is dihydrobenzo[1,4]dioxinyl, benzo[1,3]dioxolyl or 2,2-difluoro-benzo[1,3]dioxolyl, such as e.g. dihydrobenzo[1,4]dioxin-6-yl, benzo[1,3]dioxol-5-yl, or 2,2-difluoro-benzo[1,3]dioxol-5-yl;

or, in another embodimental detail according to this invention,
Har is Cyc2, in which
either
Cyc2 is quinolinyl, benzofurazanyl or benzothiazolyl,
such as e.g. quinolin-6-yl, benzofurazan-5-yl or benzothiazol-6-yl,
or
Cyc2 is 1-(1-4C-alkyl)-1H-benzotriazolyl or 1-(1-4C-alkyl)-4-methoxy-3-methyl-1H-pyrazolo[3,4-b]pyridinyl,
such as e.g. 1-methyl-1H-benzotriazol-5-yl or 4-methoxy-1,3-dimethyl-1H-pyrazolo[3,4-b]pyridin-5-yl;

or, in yet another embodimental detail according to this invention,
either
Har is pyridinyl, pyrimidinyl, isoxazolyl, 1-(1-4C-alkyl)-1H-imidazolyl, methyl-pyrazinyl or pyridyl-thiazolyl,
such as e.g. pyridin-3-yl, pyridin-4-yl, pyrimidin-5-yl, pyrazin-2-yl, 5-methyl-pyrazin-2-yl, isoxazol-5-yl, 1-methyl-imidazol-2-yl, 1-methyl-imidazol-5-yl or 2-(pyridin-3-yl)-thiazol-4-yl,
or

Har is substituted by R6 and/or R7 and/or R8, and is pyrimidinyl, in which
R6 is 1-4C-alkoxy,
R7 is 1-4C-alkoxy,
R8 is 1-4C-alkoxy,
such as e.g. 2,6-dimethoxypyrimidin-4-yl, 2-methoxy-pyrimidin-5-yl, 2,4,6 -trimethoxy-pyrimidin-5-yl, 2,4-dimethoxy-pyrimidin-5-yl or 2,6-dimethoxy-pyrimidin-4-yl,
or
Har is substituted by R6, and is pyridinyl, in which
R6 is 1-4C-alkoxycarbonyl,
such as e.g. 6-(methoxycarbonyl)-pyridin-3-yl or 5-(methoxycarbonyl)-pyridin-2-yl,
or
Har is substituted by R6, and is pyridinyl, in which
R6 is morpholin-4-yl, piperidin-1-yl, pyrazol-1-yl or imidazol-1-yl,
such as e.g. 6-(morpholin-4-yl)-pyridin-3-yl, 6-(piperidin-1-yl)-pyridin-3-yl, 6-(pyrazol-1-yl)-pyridin-3-yl or 6-(imidazol-1-yl)-pyridin-3-yl,
or
Har is substituted by R6 and/or R7, and is pyridinyl, in which
R6 is 1-4C-alkoxy,
R7 is 1-4C-alkoxy,
such as e.g. 2,6-dimethoxy-pyridin-4-yl, 2,6-dimethoxy-pyridin-3-yl or 2-methoxy-pyridin-3-yl,
or
Har is substituted by R6 and R7 and R8, and is pyridinyl, in which
R6 is 1-4C-alkoxy,
R7 is 1-4C-alkoxy,
R8 is chlorine,
such as e.g. 3-chloro-2,6-dimethoxy-pyridin-4-yl;
and the salts, the N-oxides and the salts of the N-oxides of these compounds.

11. Compounds of formula I according to claim 1 in which
R1 is 1-2C-alkoxy, 2,2-difluoroethoxy, or completely or predominantly fluorine-substituted 1-2C-alkoxy,
R2 is 1-2C-alkoxy, 2,2-difluoroethoxy, or completely or predominantly fluorine-substituted 1-2C-alkoxy,
R3 is hydrogen,
R31 is hydrogen,
R4 is -O-R41, in which
R41 is hydrogen or 1-4C-alkylcarbonyl,
R5 is hydrogen,

Har is optionally substituted by R6 and/or R7 and/or R8, and is a pyridinyl, pyrimidinyl, pyrazinyl or pyridazinyl radical, in which

R6 is halogen, 1-4C-alkyl, 1-4C-alkoxy, 1-4C-alkylthio, 1-4C-alkoxycarbonyl, carboxyl, hydroxyl, oxo, or -A-N(R61)R62, in which

A is a bond or 1-4C-alkylene,

R61 is 1-4C-alkyl,

R62 is 1-4C-alkyl,

or R61 and R62 together and with inclusion of the nitrogen atom, to which they are attached, form a heterocyclic ring Het1, in which

either

Het1 is piperidin-1-yl, pyrrolidin-1-yl, morpholin-4-yl, thiomorpholin-4-yl, piperazin-1-yl or 4N-methyl-piperazin-1-yl,

or

Het1 is pyrrol-1-yl, pyrazol-1-yl, triazol-1-yl or imidazol-1-yl,

R7 is 1-4C-alkyl, 1-4C-alkoxy, 1-4C-alkylthio, hydroxyl, oxo, or di-1-4C-alkylamino,

R8 is halogen, 1-4C-alkyl or 1-4C-alkoxy,

and the enantiomers, as well as the salts, the N-oxides and the salts of the N-oxides of these compounds and enantiomers.

12. Compounds of formula I according to claim 1 in which

R1 is methoxy,

R2 is methoxy, ethoxy, difluoromethoxy or 2,2-difluoroethoxy,

R3 is hydrogen,

R31 is hydrogen,

R4 is -O-R41, in which

R41 is hydrogen,

R5 is hydrogen,

Har is substituted by R6, and is pyridinyl, in which

R6 is methoxy, ethoxy, methylthio, methoxycarbonyl, hydroxyl, carboxyl, or -A-N(R61)R62, in which

A is a bond, or ethylene,

R61 is methyl,

R62 is methyl,

or R61 and R62 together and with inclusion of the nitrogen atom, to which they are attached, form a heterocyclic ring Het1, in which

either

Het1 is piperidin-1-yl, pyrrolidin-1-yl or morpholin-4-yl,

or

Het1 is pyrazol-1-yl or imidazol-1-yl,

and the enantiomers, as well as the salts, the N-oxides and the salts of the N-oxides of these compounds and enantiomers.

13. Compounds of formula I according to claim 1 in which
R1 is methoxy,
R2 is methoxy, ethoxy, difluoromethoxy or 2,2-difluoroethoxy,
R3 is hydrogen,
R31 is hydrogen,
R4 is -O-R41, in which
R41 is hydrogen,
R5 is hydrogen,
Har is 6-(morpholin-4-yl)-pyridin-3-yl, 6-(piperidin-1-yl)-pyridin-3-yl, 6-(pyrazol-1-yl)-pyridin-3-yl, 6-(imidazol-1-yl)-pyridin-3-yl, 6-methoxycarbonyl-pyridin-3-yl, 3-methoxycarbonyl-pyridin-2-yl, 2-methoxy-pyridin-3-yl, 6-methoxy-pyridin-3-yl, 2-methylsulfanyl-pyridin-3-yl, 6-hydroxy-pyridin-3-yl, 6-carboxy-pyridin-3-yl, 2-methoxy-pyrimidin-5-yl, 2-dimethylamino-pyrimidin-5-yl, 2-methylsulfanyl-pyrimidin-5-yl, 5-methyl-pyrazin-2-yl, or 6-[2-(pyrrolidin-1-yl)-ethyl]-pyridin-3yl,
and the enantiomers, as well as the salts, the N-oxides and the salts of the N-oxides of these compounds and enantiomers.

14. Compounds of formula I according to claim 1 in which
R1 is methoxy,
R2 is methoxy, ethoxy, difluoromethoxy or 2,2-difluoroethoxy,
R3 is hydrogen,
R31 is hydrogen,
R4 is -O-R41, in which
R41 is hydrogen,
R5 is hydrogen,
either
Har is substituted by R6 and R7, and is a pyridinyl, pyrimidinyl, pyridazinyl or pyrazinyl radical, in which
R6 is methoxy or ethoxy, and
R7 is methoxy or ethoxy,
or
R6 is oxo, and
R7 is methyl,
or
R6 is methylthio, and
R7 is methyl,
or

R6 is chlorine, and
R7 is methylthio,
or
R6 is dimethylamino, and
R7 is methoxy or ethoxy,
or
R6 is dimethylamino, and
R7 is dimethylamino,
or
Har is substituted by R6 and R8, and is a pyridinyl, pyrimidinyl, pyridazinyl or pyrazinyl radical, in which
R6 is dimethylamino, and
R8 is chlorine,
and the enantiomers, as well as the salts, the N-oxides and the salts of the N-oxides of these compounds and enantiomers.

15. Compounds of formula I according to claim 1 in which
R1 is methoxy,
R2 is methoxy, ethoxy, difluoromethoxy or 2,2-difluoroethoxy,
R3 is hydrogen,
R31 is hydrogen,
R4 is -O-R41, in which
R41 is hydrogen,
R5 is hydrogen,
Har is substituted by R6 and R7, and is pyridinyl, in which
either
R6 is methoxy or ethoxy, and
R7 is methoxy or ethoxy,
or
R6 is oxo, and
R7 is methyl,
and the enantiomers, as well as the salts, the N-oxides and the salts of the N-oxides of these compounds and enantiomers.

16. Compounds of formula I according to claim 1 in which
R1 is methoxy,
R2 is methoxy, ethoxy, difluoromethoxy or 2,2-difluoroethoxy,
R3 is hydrogen,
R31 is hydrogen,

R4 is -O-R41, in which
R41 is hydrogen,
R5 is hydrogen,
either
Har is substituted by R6 and R7, and is pyrimidinyl, in which
R6 is methoxy or ethoxy, and
R7 is methoxy or ethoxy,
or
R6 is oxo, and
R7 is methyl,
or
R6 is methylthio, and
R7 is methyl,
or
R6 is chlorine, and
R7 is methylthio,
or
R6 is dimethylamino, and
R7 is methoxy or ethoxy,
or
Har is substituted by R6 and R8, and is pyrimidinyl, in which
R6 is dimethylamino, and
R8 is chlorine,
and the enantiomers, as well as the salts, the N-oxides and the salts of the N-oxides of these compounds and enantiomers.

17. Compounds of formula I according to claim 1 in which
R1 is methoxy,
R2 is methoxy, ethoxy, difluoromethoxy or 2,2-difluoroethoxy,
R3 is hydrogen,
R31 is hydrogen,
R4 is -O-R41, in which
R41 is hydrogen,
R5 is hydrogen,
Har is substituted by R6 and R7, and is pyridazinyl, in which
R6 is methoxy or ethoxy, and
R7 is methoxy or ethoxy,
and the enantiomers, as well as the salts, the N-oxides and the salts of the N-oxides of these compounds and enantiomers.

18. Compounds of formula I according to claim 1 in which

R1 is methoxy,

R2 is methoxy, ethoxy, difluoromethoxy or 2,2-difluoroethoxy,

R3 is hydrogen,

R31 is hydrogen,

R4 is -O-R41, in which

R41 is hydrogen,

R5 is hydrogen,

Har is 2,6-dimethoxy-pyridin-3-yl, 2,6-dimethoxy-pyridin-4-yl, 4,6-dimethoxy-pyridin-3-yl, 5,6-dimethoxy-pyridin-3-yl, 4,6-diethoxy-pyridin-3-yl, 5-ethoxy-6-methoxy-pyridin-3-yl, 1-methyl-1H-pyridin-2-one-5-yl, 2,6-dimethoxy-pyrimidin-4-yl, 2,4-dimethoxy-pyrimidin-5-yl, 4,6-dimethoxy-pyrimidin-5-yl, 4-methyl-2-methylsulfanyl-pyrimidin-5-yl, 5-chloro-2-methylsulfanyl-pyrimidin-4-yl, 4-chloro-2-dimethylamino-pyrimidin-5-yl, 2-dimethylamino-4-methoxy-pyrimidin-5-yl, 1-methyl-1H-pyrimidin-2-one-5-yl, or 3,6-dimethoxy-pyridazin-4-yl,

and the enantiomers, as well as the salts, the N-oxides and the salts of the N-oxides of these compounds and enantiomers.

19. Compounds of formula I according to claim 1 in which

R1 is methoxy,

R2 is ethoxy, difluoromethoxy or 2,2-difluoroethoxy,

R3 is hydrogen,

R31 is hydrogen,

R4 is -O-R41, in which

R41 is hydrogen,

R5 is hydrogen,

Har is any one selected from

6-(imidazol-1-yl)-pyridin-3-yl, pyrimidin-5-yl,

2-methoxy-pyrimidin-5-yl, 2-dimethylamino-pyrimidin-5-yl, 2-methylsulfanyl-pyrimidin-5-yl,

2,6-dimethoxy-pyridin-3-yl, 2,6-dimethoxy-pyridin-4-yl, 4,6-dimethoxy-pyridin-3-yl, 5,6-dimethoxy-pyridin-3-yl, 4,6-diethoxy-pyridin-3-yl, 5-ethoxy-6-methoxy-pyridin-3-yl,

1-methyl-1H-pyridin-2-one-5-yl,

2,6-dimethoxy-pyrimidin-4-yl, 2,4-dimethoxy-pyrimidin-5-yl, 4,6-dimethoxy-pyrimidin-5-yl,

2-dimethylamino-4-methoxy-pyrimidin-5-yl, 1-methyl-1H-pyrimidin-2-one-5-yl, and

3,6-dimethoxy-pyridazin-4-yl,

and the enantiomers, as well as the salts, the N-oxides and the salts of the N-oxides of these compounds and enantiomers.

20. Compounds of formula I according to any of the preceding claims comprising one or more of the following:

R1 is methoxy,

R2 is ethoxy, difluoromethoxy or 2,2-difluoroethoxy, and

R3 and R31 are both hydrogen;

R4 is -O-R41, in which

R41 is hydrogen, and

R5 is hydrogen;

Har is substituted by R6 and R7, and is pyridinyl; and

Har is optionally substituted by R6 and/or R7, and is pyrimidinyl or pyridazinyl;

and the enantiomers, as well as the salts, the N-oxides and the salts of the N-oxides of these compounds and enantiomers.

21. Compounds of formula I according to any of the preceding claims comprising one or more of the following:

R1 is methoxy,

R2 is ethoxy, difluoromethoxy or 2,2-difluoroethoxy, and

R3 and R31 are both hydrogen;

R4 is -O-R41, in which

R41 is hydrogen, and

R5 is hydrogen; and

Har is either N-methyl-pyrid-2-onyl or N-methyl-pyrimid-2-onyl,
or imidazol-1-yl-pyridinyl or pyrazol-1-yl-pyridinyl,
or methylthio-pyrimidinyl, methoxy-pyrimidinyl, dimethylamino-pyrimidinyl or pyrimidinyl,
or

Har is substituted by R6 and R7, and is pyridinyl, in which

R6 is methoxy or ethoxy, and

R7 is methoxy or ethoxy,
or

Har is substituted by R6 and R7, and is pyrimidinyl or pyridazinyl, in which

R6 is methoxy, ethoxy or dimethylamino, and

R7 is methoxy or ethoxy;

and the enantiomers, as well as the salts, the N-oxides and the salts of the N-oxides of these compounds and enantiomers.

22. Compounds of formula I according to claim 1 which are selected from
(2RS,4aRS,10bRS)-6-(2,6-Dimethoxy-pyridin-3-yl)-9-ethoxy-8-methoxy-1,2,3,4,4a,10b-hexahydro-phenanthridin-2-ol
2RS,4aRS,10bRS)-9-Ethoxy-8-methoxy-6-(3-methyl-3H-imidazol-4-yl)-1,2,3,4,4a,10b-hexahydro-phenanthridin-2-ol
(2RS,4aRS,10bRS)-9-Ethoxy-8-methoxy-6-(2-pyridin-3-yl-thiazol-4-yl)-1,2,3,4,4a,10b-hexahydro-phenanthridin-2-ol
(2RS,4aRS,10bRS)-9-Ethoxy-6-isoxazol-5-yl-8-methoxy-1,2,3,4,4a,10b-hexahydro-phenanthridin-2-ol
(2RS,4aRS,10bRS)-8,9-Dimethoxy-6-pyridin-4-yl-1,2,3,4,4a,10b-hexahydro-phenanthridin-2-ol
(2RS,4aRS,10bRS)-8,9-Dimethoxy-6-pyridin-3-yl-1,2,3,4,4a,10b-hexahydro-phenanthridin-2-ol
(2RS,4aRS,10bRS)-8,9-Dimethoxy-6-(6-morpholin-4-yl-pyridin-3-yl)-1,2,3,4,4a,10b-hexahydro-phenanthridin-2-ol
(2RS,4aRS,10bRS)-6-Benzo[1,2,5]oxadiazol-5-yl-9-(1,1-difluoro-methoxy)-8-methoxy-1,2,3,4,4a,10b-hexahydro-phenanthridin-2-ol
(2RS,4aRS,10bRS)-6-Benzo[1,2,5]oxadiazol-5-yl-9-(2,2-difluoro-ethoxy)-8-methoxy-1,2,3,4,4a,10b-hexahydro-phenanthridin-2-ol
(2RS,4aRS,10bRS)-6-Benzo[1,2,5]oxadiazol-5-yl-8-(1,1-difluoro-methoxy)-9-methoxy-1,2,3,4,4a,10b-hexahydro-phenanthridin-2-ol
(2RS,4aRS,10bRS)-6-(2,3-Dihydro-benzo[1,4]dioxin-6-yl)-9-ethoxy-8-methoxy-1,2,3,4,4a,10b-hexahydro-phenanthridin-2-ol
(2RS,4aRS,10bRS)-6-Benzo[1,3]dioxol-5-yl-9-ethoxy-8-methoxy-1,2,3,4,4a,10b-hexahydro-phenanthridin-2-ol
(2RS,4aRS,10bRS)-6-Benzothiazol-6-yl-9-ethoxy-8-methoxy-1,2,3,4,4a,10b-hexahydro-phenanthridin-2-ol
(2RS,4aRS,10bRS)-8,9-Dimethoxy-6-quinolin-6-yl-1,2,3,4,4a,10b-hexahydro-phenanthridin-2-ol
(2RS,4aRS,10bRS)-6-(2,2-Difluoro-benzo[1,3]dioxol-5-yl)-8,9-dimethoxy-1,2,3,4,4a,10b-hexahydro-phenanthridin-2-ol
(2RS,4aRS,10bRS)-6-Benzo[1,2,5]oxadiazol-5-yl-9-ethoxy-8-methoxy-1,2,3,4,4a,10b-hexahydro-phenanthridin-2-ol
(2RS,4aRS,10bRS)-9-Ethoxy-8-methoxy-6-(1-methyl-1H-imidazol-2-yl)-1,2,3,4,4a,10b-hexahydro-phenanthridin-2-ol
5-((2RS,4aRS,10bRS)-9-Ethoxy-2-hydroxy-8-methoxy-1,2,3,4,4a,10b-hexahydro-phenanthridin-6-yl)-pyridine-2-carboxylic acid methyl ester
(2RS,4aRS,10bRS)-9-(2,2-Difluoro-ethoxy)-6-(2,6-dimethoxy-pyridin-3-yl)-8-methoxy-1,2,3,4,4a,10b-hexahydro-phenanthridin-2-ol

(2RS,4aRS,10bRS)-9-(2,2-Difluoro-ethoxy)-8-methoxy-6-(2-methoxy-pyridin-3-yl)-1,2,3,4,4a,10b-hexahydro-phenanthridin-2-ol
(2RS,4aRS,10bRS)-9-(2,2-Difluoro-ethoxy)-8-methoxy-6-(6-morpholin-4-yl-pyridin-3-yl)-1,2,3,4,4a,10b-hexahydro-phenanthridin-2-ol
(2RS,4aRS,10bRS)-9-(2,2-Difluoro-ethoxy)-8-methoxy-6-pyridin-3-yl-1,2,3,4,4a,10b-hexahydro-phenanthridin-2-ol
(2RS,4aRS,10bRS)-9-(2,2-Difluoro-ethoxy)-6-(2,6-dimethoxy-pyrimidin-4-yl)-8-methoxy-1,2,3,4,4a,10b-hexahydro-phenanthridin-2-ol
(2RS,4aRS,10bRS)-8-(2,2-Difluoro-ethoxy)-6-(2,6-dimethoxy-pyridin-3-yl)-9-methoxy-1,2,3,4,4a,10b-hexahydro-phenanthridin-2-ol
(2RS,4aRS,10bRS)-6-(2,6-Dimethoxy-pyridin-3-yl)-8,9-dimethoxy-1,2,3,4,4a,10b-hexahydro-phenanthridin-2-ol
(2RS,4aRS,10bRS)-6-(2,6-Dimethoxy-pyridin-4-yl)-9-ethoxy-8-methoxy-1,2,3,4,4a,10b-hexahydro-phenanthridin-2-ol
(2RS,4aRS,10bRS)-6-(3-Chloro-2,6-dimethoxy-pyridin-4-yl)-9-(2,2-difluoro-ethoxy)-8-methoxy-1,2,3,4,4a,10b-hexahydro-phenanthridin-2-ol
(2R,4aR,10bR)-9-Ethoxy-8-methoxy-6-pyrimidin-5-yl-1,2,3,4,4a,10b-hexahydro-phenanthridin-2-ol
(2R,4aR,10bR)-9-Ethoxy-8-methoxy-6-(6-pyrazol-1-yl-pyridin-3-yl)-1,2,3,4,4a,10b-hexahydro-phenanthridin-2-ol
(2R,4aR,10bR)-9-Ethoxy-8-methoxy-6-(3,4,5,6-tetrahydro-2H-[1,2']bipyridinyl-5'-yl)-1,2,3,4,4a,10b-hexahydro-phenanthridin-2-ol
6-((2R,4aR,10bR)-9-Ethoxy-2-hydroxy-8-methoxy-1,2,3,4,4a,10b-hexahydro-phenanthridin-6-yl)-nicotinic acid methyl ester
(2R,4aR,10bR)-9-Ethoxy-8-methoxy-6-(2-methoxy-pyrimidin-5-yl)-1,2,3,4,4a,10b-hexahydro-phenanthridin-2-ol
(2R,4aR,10bR)-9-Ethoxy-8-methoxy-6-(2,4,6-trimethoxy-pyrimidin-5-yl)-1,2,3,4,4a,10b-hexahydro-phenanthridin-2-ol
(2R,4aR,10bR)-6-(2,4-Dimethoxy-pyrimidin-5-yl)-9-ethoxy-8-methoxy-1,2,3,4,4a,10b-hexahydro-phenanthridin-2-ol
(2R,4aR,10bR)-9-Ethoxy-8-methoxy-6-(5-methyl-pyrazin-2-yl)-1,2,3,4,4a,10b-hexahydro-phenanthridin-2-ol
(2R,4aR,10bR)-6-(2,6-Dimethoxy-pyrimidin-4-yl)-9-ethoxy-8-methoxy-1,2,3,4,4a,10b-hexahydro-phenanthridin-2-ol
(2R,4aR,10bR)-9-Ethoxy-6-(6-imidazol-1-yl-pyridin-3-yl)-8-methoxy-1,2,3,4,4a,10b-hexahydro-phenanthridin-2-ol
(2R,4aR,10bR)-9-Ethoxy-8-methoxy-6-pyrazin-2-yl-1,2,3,4,4a,10b-hexahydro-phenanthridin-2-ol
(2R,4aR,10bR)-9-Ethoxy-8-methoxy-6-(1-methyl-1H-benzotriazol-5-yl)-1,2,3,4,4a,10b-hexahydro-phenanthridin-2-ol

(2R,4aR,10bR)-9-Ethoxy-8-methoxy-6-(4-methoxy-1,3-dimethyl-1H-pyrazolo[3,4-b]pyridin-5-yl)-1,2,3,4,4a,10b-hexahydro-phenanthridin-2-ol

(2S,4aS,10bS)-6-(2,6-Dimethoxy-pyridin-3-yl)-9-ethoxy-8-methoxy-1,2,3,4,4a,10b-hexahydro-phenanthridin-2-ol

(2R,4aR,10bR)-6-(2,6-Dimethoxy-pyridin-3-yl)-9-ethoxy-8-methoxy-1,2,3,4,4a,10b-hexahydro-phenanthridin-2-ol

(3SR,4aRS,10bRS)-8,9-Dimethoxy-6-pyridin-3-yl-1,2,3,4,4a,10b-hexahydro-phenanthridin-3-ol

(2R,4aR,10bR)-6-(4-Chloro-2,6-dimethoxy-pyridin-3-yl)-9-ethoxy-8-methoxy-1,2,3,4,4a,10b-hexahydro-phenanthridin-2-ol

(2R,4aR,10bR)-9-Ethoxy-8-methoxy-6-(2-methylsulfanyl-pyridin-3-yl)-1,2,3,4,4a,10b-hexahydro-phenanthridin-2-ol

(2R,4aR,10bR)-9-Ethoxy-8-methoxy-6-(4-methyl-2-methylsulfanyl-pyrimidin-5-yl)-1,2,3,4,4a,10b-hexahydro-phenanthridin-2-ol

(2R,4aR,10bR)-6-(5-Chloro-2-methylsulfanyl-pyrimidin-4-yl)-9-ethoxy-8-methoxy-1,2,3,4,4a,10b-hexahydro-phenanthridin-2-ol

(2R,4aR,10bR)-9-Ethoxy-8-methoxy-6-(2-methoxy-pyridin-3-yl)-1,2,3,4,4a,10b-hexahydro-phenanthridin-2-ol

5-((2R,4aR,10bR)-9-Ethoxy-2-hydroxy-8-methoxy-1,2,3,4,4a,10b-hexahydro-phenanthridin-6-yl)-1-methyl-1H-pyridin-2-one

(2R,4aR,10bR)-9-Ethoxy-8-methoxy-6-(6-methoxy-pyridin-3-yl)-1,2,3,4,4a,10b-hexahydro-phenanthridin-2-ol

(2R,4aR,10bR)-6-(4-Chloro-2-dimethylamino-pyrimidin-5-yl)-9-ethoxy-8-methoxy-1,2,3,4,4a,10b-hexahydro-phenanthridin-2-ol

(2R,4aR,10bR)-6-(2-Dimethylamino-4-methoxy-pyrimidin-5-yl)-9-ethoxy-8-methoxy-1,2,3,4,4a,10b-hexahydro-phenanthridin-2-ol

(2R,4aR,10bR)-6-(4,6-Diethoxy-pyridin-3-yl)-9-ethoxy-8-methoxy-1,2,3,4,4a,10b-hexahydro-phenanthridin-2-ol

(2R,4aR,10bR)-6-(4,6-Dimethoxy-pyridin-3-yl)-9-ethoxy-8-methoxy-1,2,3,4,4a,10b-hexahydro-phenanthridin-2-ol

(2R,4aR,10bR)-6-(2-Dimethylamino-pyrimidin-5-yl)-9-ethoxy-8-methoxy-1,2,3,4,4a,10b-hexahydro-phenanthridin-2-ol

(2R,4aR,10bR)-6-(5,6-Dimethoxy-pyridin-3-yl)-9-ethoxy-8-methoxy-1,2,3,4,4a,10b-hexahydro-phenanthridin-2-ol

(2R,4aR,10bR)-9-Ethoxy-6-(5-ethoxy-6-methoxy-pyridin-3-yl)-8-methoxy-1,2,3,4,4a,10b-hexahydro-phenanthridin-2-ol

(2R,4aR,10bR)-9-Ethoxy-8-methoxy-6-(2-methylsulfanyl-pyrimidin-5-yl)-1,2,3,4,4a,10b-hexahydro-phenanthridin-2-ol

5-((2R,4aR,10bR)-9-Ethoxy-2-hydroxy-8-methoxy-1,2,3,4,4a,10b-hexahydro-phenanthridin-6-yl)-1-methyl-1H-pyrimidin-2-one

(2R,4aR,10bR)-9-Ethoxy-6-(6-hydroxy-pyridin-3-yl)-8-methoxy-1,2,3,4,4a,10b-hexahydro-phenanthridin-2-ol

(2R,4aR,10bR)-6-(3,6-Dimethoxy-pyridazin-4-yl)-9-ethoxy-8-methoxy-1,2,3,4,4a,10b-hexahydro-phenanthridin-2-ol

(2R,4aR,10bR)-6-(4,6-Dimethoxy-pyrimidin-5-yl)-9-ethoxy-8-methoxy-1,2,3,4,4a,10b-hexahydro-phenanthridin-2-ol

(2RS,4aRS,10bRS)-9-Ethoxy-8-methoxy-6-pyridin-4-yl-1,2,3,4,4a,10b-hexahydro-phenanthridin-2-ol

(2RS,4aRS,10bRS)-9-Ethoxy-8-methoxy-6-pyridin-3-yl-1,2,3,4,4a,10b-hexahydro-phenanthridin-2-ol

(2RS,4aRS,10bRS)-9-Ethoxy-8-methoxy-6-(6-morpholin-4-yl-pyridin-3-yl)-1,2,3,4,4a,10b-hexahydro-phenanthridin-2-ol

(2RS,4aRS,10bRS)-9-(1,1-Difluoro-methoxy)-6-(2,6-dimethoxy-pyridin-3-yl)-8-methoxy-1,2,3,4,4a,10b-hexahydro-phenanthridin-2-ol

(2RS,4aRS,10bRS)-8-(1,1-Difluoro-methoxy)-6-(2,6-dimethoxy-pyridin-3-yl)-9-methoxy-1,2,3,4,4a,10b-hexahydro-phenanthridin-2-ol

(2RS,4aRS,10bRS)-6-Benzo[1,2,5]oxadiazol-5-yl-8-(1,1-difluoro-methoxy)-9-methoxy-1,2,3,4,4a,10b-hexahydro-phenanthridin-2-ol

(2RS,4aRS,10bRS)-6-(2,6-Dimethoxy-pyrimidin-4-yl)-9-ethoxy-8-methoxy-1,2,3,4,4a,10b-hexahydro-phenanthridin-2-ol

(2RS,4aRS,10bRS)-6-(5-Chloro-2,6-bis-dimethylamino-pyrimidin-4-yl)-9-ethoxy-8-methoxy-1,2,3,4,4a,10b-hexahydro-phenanthridin-2-ol

(2RS,4aRS,10bRS)-9-Ethoxy-8-methoxy-6-pyrimidin-5-yl-1,2,3,4,4a,10b-hexahydro-phenanthridin-2-ol

(2RS,4aRS,10bRS)-9-Ethoxy-8-methoxy-6-pyrazin-2-yl-1,2,3,4,4a,10b-hexahydro-phenanthridin-2-ol

(2RS,4aRS,10bRS)-6-(5-Chloro-4-methyl-3,4-dihydro-2H-benzo[1,4]oxazin-7-yl)-9-ethoxy-8-methoxy-1,2,3,4,4a,10b-hexahydro-phenanthridin-2-ol

(2RS,4aRS,10bRS)-9-Ethoxy-8-methoxy-6-(6-pyrazol-1-yl-pyridin-3-yl)-1,2,3,4,4a,10b-hexahydro-phenanthridin-2-ol

(2RS,4aRS,10bRS)-9-Ethoxy-6-(6-imidazol-1-yl-pyridin-3-yl)-8-methoxy-1,2,3,4,4a,10b-hexahydro-phenanthridin-2-ol

(2RS,4aRS,10bRS)-6-Benzo[1,2,3]thiadiazol-5-yl-9-ethoxy-8-methoxy-1,2,3,4,4a,10b-hexahydro-phenanthridin-2-ol

(2RS,4aRS,10bRS)-9-Ethoxy-8-methoxy-6-[6-(2-pyrrolidin-1-yl-ethyl)-pyridin-3-yl]-1,2,3,4,4a,10b-hexahydro-phenanthridin-2-ol

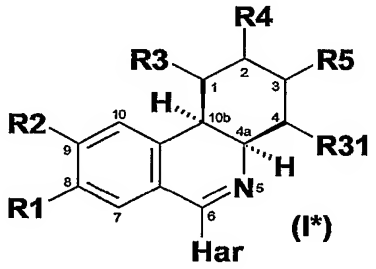
(2RS,4aRS,10bRS)-9-Ethoxy-8-methoxy-6-(2-methoxy-pyridin-3-yl)-1,2,3,4,4a,10b-hexahydro-phenanthridin-2-ol

(2RS,4aRS,10bRS)-9-Ethoxy-8-methoxy-6-(1-methyl-1H-benzotriazol-5-yl)-1,2,3,4,4a,10b-hexahydro-phenanthridin-2-ol

(2RS,4aRS,10bRS)-9-Ethoxy-8-methoxy-6-quinoxalin-5-yl-1,2,3,4,4a,10b-hexahydro-phenanthridin-2-ol

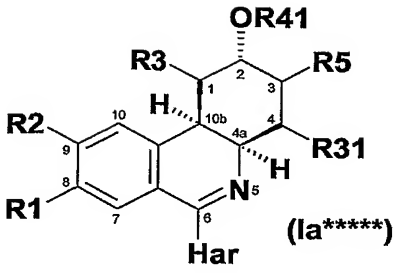
(2RS,4aRS,10bRS)-6-(3-Chloro-2,6-dimethoxy-pyridin-4-yl)-9-ethoxy-8-methoxy-1,2,3,4,4a,10b-hexahydro-phenanthridin-2-ol
(2RS,4aRS,10bRS)-8-(1,1-Difluoro-methoxy)-9-methoxy-6-pyridin-3-yl-1,2,3,4,4a,10b-hexahydro-phenanthridin-2-ol
(2RS,4aRS,10bRS)-8-(1,1-Difluoro-methoxy)-9-methoxy-6-(6-morpholin-4-yl-pyridin-3-yl)-1,2,3,4,4a,10b-hexahydro-phenanthridin-2-ol
5-((2R,4aR,10bR)-9-Ethoxy-2-hydroxy-8-methoxy-1,2,3,4,4^a,10b-hexahydro-phenanthridin-6-yl)-pyridine-2-carboxylic acid
(2S,4aS,10bS)-6-(2,6-Dimethoxy-pyridin-3-yl)-8,9-dimethoxy-1,2,3,4,4a,10b-hexahydro-phenanthridin-2-ol
(2R,4aR,10bR)-6-(2,6-Dimethoxy-pyridin-3-yl)-8,9-dimethoxy-1,2,3,4,4^a,10b-hexahydro-phenanthridin-2-ol and
(3SR,4aRS,10bRS)-6-(2,6-Dimethoxy-pyridin-3-yl)-9-ethoxy-8-methoxy-1,2,3,4,4a,10b-hexahydro-phenanthridin-3-ol,
and the enantiomers, as well as the salts, the N-oxides and the salts of the N-oxides of these compounds and enantiomers.

23. Compounds of formula I according to any of the preceding claims, which have with respect to the positions 4a and 10b the configuration shown in formula I*:

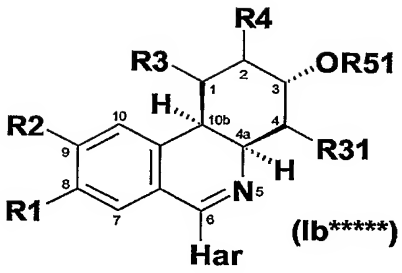


and the salts, the N-oxides and the salts of the N-oxides of these compounds.

24. Compounds of formula I according to any of the preceding claims, which have with respect to the positions 2, 4a and 10b the configuration shown in formula Ia*****, or, which have with respect to the positions 3, 4a and 10b the configuration shown in formula Ib*****:



(Ia*****)



(Ib*****)

and the salts, the N-oxides and the salts of the N-oxides of these compounds.

25. Compounds of formula I as claimed in claim 1 for use in the treatment of diseases.

26. A pharmaceutical composition comprising one or more compounds of formula I as claimed in claim 1 together with customary pharmaceutical excipients and/or vehicles.

27. The use of compounds of formula I as claimed in claim 1 for the production of pharmaceutical compositions for treating respiratory disorders.

28. The use of compounds of formula I as claimed in claim 1 for the production of pharmaceutical compositions for treating PDE-mediated disorders.

29. A method for treating illnesses in a patient comprising administering to said patient a therapeutically effective amount of a compound of formula I as claimed in claim 1.

30. A method for treating airway disorders in a patient comprising administering to said patient a therapeutically effective amount of a compound of formula I as claimed in claim 1.